

Gijs de Boer

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Education

- PhD (Atmospheric Science) 2005-2009: Department of Atmospheric and Oceanic Sciences
The University of Wisconsin - Madison, Madison, WI
Thesis: Understanding the Lifecycle of Mixed-Phase Stratus Through Modeling
and Observations. Date of Completion: 05/2009
Advisors: Gregory Tripoli and Edwin Eloranta
- M.S. (Atmospheric Science) 2002-2004: Department of Atmospheric and Oceanic Sciences
The University of Wisconsin - Madison, Madison, WI
Thesis: Nested High Resolution Simulation and Lidar Validation of a Land
Breeze Circulation. Date of Completion: 12/2004
Advisors: Gregory Tripoli and Edwin Eloranta
- B.S. (Atmospheric Science) 1998-2002: Department of Earth and Atmospheric Sciences
Cornell University, Ithaca, NY

Professional Experience

- 2011-present Research Scientist I
Cooperative Institute for Research in Environmental Science (CIRES)
The University of Colorado - Boulder
Boulder, CO USA
- 2011-2012 Project Scientist
Lawrence Berkeley National Laboratory
Berkeley, CA USA
- 2009-2011 Postdoctoral Researcher
Lawrence Berkeley National Laboratory
Berkeley, CA USA
- 2009 Postdoctoral Scholar
The University of Wisconsin - Madison
Madison, WI USA
- 2002-2009 Research Assistant
The University of Wisconsin - Madison
Madison, WI USA
- 2001-2002 Research Assistant/Programmer
Northeast Regional Climate Center at Cornell University
Ithaca, NY USA
- 2001 Teaching Assistant (EAS 131)
Cornell University: Department of Earth and Atmospheric Science
Ithaca, NY USA

Professional Organizations, Service and Development

2012:	Co-Convener: AGU Session C027, Observational Needs for Polar Climate Modelers
2012:	Co-Convener: 2012 International Polar Year Conference session 5.2, Polar Observing Systems
2011:	Participant: NCAR CESM tutorial
2011:	Instructor: International Arctic Research Center (IARC) Summer School on Modeling of the Arctic Climate System
2011-present:	Member: European Geosciences Union (EGU)
2011:	Panel Reviewer: National Science Foundation (NSF)
2011:	Instructor: Introduction to weather and climate, St. Helena Primary Schools (K-2)
2010-present:	Member: International Glaciological Society (IGS)
2010:	Panel Reviewer: United States Department of Energy (DOE)
2009:	Volunteer: ARCUS AGU Exploration Station
2008-present:	Participant: CCSM Polar Climate Working Group
2007-present:	Member: AMS Committee for Laser Atmospheric Studies (CLAS)
2006-present:	Reviewer: Proposals for various NSF Branches
2006-present:	Reviewer: Various academic journals (JGR, ACP, J. Clim, Mon. Wea. Rev., JAS, JAMC, GRL, others)
2005-present:	Member: American Geophysical Union (AGU)
2004-present:	Member: American Meteorological Society (AMS)
2006-2009:	Science Team member: Atmospheric Radiation Measurement (ARM) Program
2006-2009:	Science Team member: CloudSat and CALIPSO programs
2006-2008:	Member: Organizing committee for UW-AOS departmental colloquium series

Awards

2012:	"Top-25 most cited articles" as published in Atmospheric Research (2010)
2011:	Outstanding Oral Presentation Award, Arctic Science Summit Week 2011
2009:	National Research Council Postdoctoral Scholar Fellowship (Declined)
2008:	Chief Scientist Award for Poster Presentation, ARM Program Science Team Meeting
2007:	Student Service Award, Department of Atmospheric and Oceanic Science, University of Wisconsin - Madison
2006:	Student Service Award, Department of Atmospheric and Oceanic Science, University of Wisconsin - Madison

Publications

Refereed Publications

- de Boer, G.**, T. Hashino, G.J. Tripoli and E.W. Eloranta (2013): A Numerical Study of Aerosol Influence on Mixed-Phase Stratiform Clouds through Modulation of the Liquid Phase, *Atmos. Chem. Phys.*, 12, 22059-22101, doi: 10.5194/acpd-12-22059-2012.
- Cesana, G., J.E. Kay, H. Chepfer, J. English and **G. de Boer**: Ubiquitous Low-Level Liquid-Containing Arctic Clouds (2012): New Observations and Climate Model Constraints from CALIPSO-GOCCP, *Geophys. Res. Lett.*, 39, L20804, doi: 10.1029/2012GL053385.
- de Boer, G.**, T. Hashino, G.J. Tripoli and E.W. Eloranta (2012): A Numerical Study of Aerosol Influence on Mixed-Phase Stratiform Clouds through Modulation of the Liquid Phase, *Atmos. Chem. Phys. Discuss*, 12, 22059-22101, doi: 10.5194/acpd-12-22059-2012.
- de Boer, G.**, G.J. Tripoli and E.W. Eloranta (2012): Implementation and Validation of Dynamical Downscaling in a Micro-Scale Simulation of a Lake Michigan Land Breeze, *ISRN Meteor.*, 2012, 529401, doi: 10.5402/2012/529401.

- de Boer, G.**, W. Chapman, J. Kay, B. Medeiros, M.D. Shupe, S. Vavrus and J.E. Walsh (2012): A Characterization of the Arctic Atmosphere in CCSM4, *J. Clim.*, 25, 2676-2695, doi: 10.1175/JCLI-D-11-00228.1.
- Morrison, H., **G. de Boer**, G. Feingold, J.Y. Harrington, M.D. Shupe and K. Sulia (2012): Resilience of Persistent Arctic Mixed-Phase Clouds, *Nature Geosci.*, 5, 11-17, doi: 10.1038/NGEO1332.
- de Boer, G.**, W.D. Collins, S. Menon, C.N. Long (2011): Using Surface Remote Sensors to Derive Radiative Characteristics of Mixed-Phase Clouds: An Example from M-PACE, *Atmos. Chem. Phys.*, 11, 11937-11949, doi: 10.5194/acp-11-11937-2011.
- de Boer, G.**, W.D. Collins, S. Menon and C.N. Long (2011): Using Surface Remote Sensors to Derive Mixed-Phase Cloud Radiative Forcing: An Example from M-PACE, *Atmos. Chem. Phys. Discuss.*, 11, 1-32, doi:10.5194/acpd-11-1-2011.
- Morrison, H., P. Zuidema, A. Ackerman, A. Avramov, **G. de Boer**, J. Fan, A. Fridlind, T. Hashino, J. Harrington, Y. Luo, M. Ovchinnikov, and B. Shipway (2011): Intercomparison of Cloud Model Simulations of Arctic Mixed-Phase Boundary Layer Clouds Observed During SHEBA, *J. Adv. Model. Earth Syst.*, 3, M06003.
- de Boer, G.**, H. Morrison, R. Hildner, and M.D. Shupe (2011): Evidence of Liquid-Dependent Ice Nucleation in High-Latitude Stratiform Clouds from Surface Remote Sensors, *Geophys. Res. Lett.*, 38, L01803.
- de Boer, G.**, T. Hashino, and G.J. Tripoli (2010): Ice Nucleation Through Immersion Freezing in Mixed-Phase Stratiform Clouds: Theory and Numerical Simulations, *Atmos. Res.*, 96, 315-324.
- de Boer, G.**, E.W. Eloranta, and M.D. Shupe (2009): Arctic Mixed-Phase Stratus Properties from Multiple Years of Surface-Based Measurements at Two High-Latitude Locations, *J. Atmos. Sci.*, 66, 2874-2887.
- Klein, S.A., R. McCoy, H. Morrison, A. Ackerman, A. Avramov, **G. de Boer**, M. Chen, J. Cole, A.D. DelGenio, M. Falk, M. Foster, A. Fridlind, J.-C. Golaz, T. Hashino, J. Harrington, C. Hoose, M. Khairoutdinov, V. Larson, X. Liu, Y. Luo, G. McFarquhar, S. Menon, R. Neggers, S. Park, K. von Salzen, J.M. Schmidt, I. Sednev, B. Shipway, M. Shupe, D. Spangenberg, Y. Sud, D. Turner, D. Veron, G. Walker, Z. Wang, A. Wolf, S. Xie, K.-M. Xu, F. Yang, and G. Zhang (2009): Intercomparison of model simulations of mixed-phase clouds observed during the ARM Mixed-Phase Arctic Cloud Experiment. Part I: Single layer cloud, *Q. J. Roy. Meteor. Soc.* 135, 979-1002.
- de Boer, G.**, G.J. Tripoli, and E.W. Eloranta (2008): Preliminary Comparison of CloudSAT-Derived Microphysical Quantities with Ground-Based Measurements for Mixed-Phase Stratus Research, *J. Geophys. Res.* 113, D00A06.
- Shupe, M.D., J.S. Daniel, **G. de Boer**, E.W. Eloranta, P. Kolias, C.N. Long, E.P. Luke, D.D. Turner and J. Verlinde (2008): A Focus on Mixed-Phase Clouds: The Status of Ground-Based Observational Methods, *Bull. Amer. Meteor. Soc.*, 89, 1549-1562.

In Review/Preparation (Manuscripts available upon request)

- de Boer, G.**, S.E. Bauer, T. Toto, S. Menon, and A. Vogelmann: Evaluation of aerosol-cloud interactions in the GISS ModelE using ASR observations, *J. Geophys. Res.*, in review.
- Hildner, R., G.J. Tripoli, E.W. Eloranta and **G. de Boer**: Observational Evidence for Anthropogenic Effects on Arctic Boundary Layer Clouds over Eureka, Nunavut, *J. Appl. Meteor. Clim.*, in review.
- Intrieri, J.M., **G. de Boer**, M.D. Shupe, J.R. Spackman, J. Wang, P.J. Neiman, G.A. Wick, T. Hock, R.E. Hood, 2013: Global Hawk Dropsonde Observations of the Arctic Atmosphere, *Geophys. Res. Lett.*, in preparation.
- de Boer, G.**, P.O.G. Persson, M.D. Shupe, J.S. Boyle and S.A. Klein: Near-Surface Meteorology During ASCOS: Evaluation of Representation in Reanalyses and CAM5, *Atmos. Chem. Phys.*, in preparation.
- Wesslen, C., M. Tjernstrom, D.H. Bromwich, L.-S. Bai, G. de Boer and A.M.L. Ekman: Evaluating central Arctic summer conditions in the Arctic System Reanalysis (ASR) and ERA-Interim using Arctic-Summer Cloud-Ocean Study (ASCOS) data, *Atmos. Chem. Phys.* in preparation.

Selected Presentations (full list at: http://energy.lbl.gov/AS/gdeboer/Gijs_de_Boer_Publications.html)

- de Boer, G., J. Intrieri, M. Shupe, J. Spackman, J. Wang, G. Wick and R. Hood, **Arctic Global Hawk observations during WISPAR**, *First Conference of the International Society for Atmospheric Research using Remotely Piloted Aircraft (ISARRA)*, 18-20 February, 2013, Palma de Mallorca, Spain
- de Boer, G., T. Hashino and G.J. Tripoli, **A numerical study of aerosol influence on mixed-phase stratiform clouds through modulation of the liquid phase**, *International Conference on Clouds and Precipitation (ICCP)*, 30 July-3 August, 2012, Leipzig, Germany.
- de Boer, G., M.D. Shupe and O. Persson, **Arctic cloud regimes and the surface energy budget: Observations from IPY and beyond**, *IPY 2012 Conference*, 22-27 April, 2012, Montreal, Canada.

- de Boer, G., O. Persson, M.D. Shupe, A. Solomon and J.E. Kay, **Evaluation of Arctic Clouds, the Surface Radiative Budget and their Connections to Large-Scale Atmospheric State in CMIP5**, *WCRP Workshop on Coupled Model Intercomparison Project Phase 5 (CMIP5) Model Analysis*, 5-9 March, 2012, Honolulu, HI.
- de Boer, G., W. Chapman, J.E. Kay, B. Medeiros, M.D. Shupe, S. Vavrus and J.E. Walsh, **Characterization of the Present-Day Arctic Atmosphere in CCSM4**, *3rd Santa Fe Conference on Global and Regional Climate Change (Invited)*, 2 November, 2011, Santa Fe, NM.
- de Boer, G., S. Menon, S. Bauer, T. Toto, R. Bennartz, M. Cribb and J. Rausch, **Evaluation of Aerosol-Cloud Interactions in GISS ModelE Using DOE-Sponsored Observations**, *US Department of Energy Earth System Modeling Meeting*, 19 September, 2011, Washington D.C.
- de Boer, G., **An Overview of Arctic Mixed-Phase Clouds -- From Observations to Simulation**, *Naval Research Laboratory (Invited)*, 3 June, 2011, Monterey, CA.
- de Boer, G., W. Chapman, J.E. Kay, B. Medeiros, M.D. Shupe, S. Vavrus and J.E. Walsh, **Characterization of the Present-Day Arctic Atmosphere in CCSM4**, *Naval Research Laboratory (Invited)*, 2 June, 2011, Monterey, CA.
- de Boer, G., W. Chapman, J.E. Kay, B. Medeiros, M.D. Shupe, S. Vavrus and J.E. Walsh, **The Arctic Atmosphere in CCSM4: Evaluation of Key Variables**, *Arctic Science Summit Week*, 30 March, 2011, Seoul, Korea.
- de Boer, G., **Ice Formation in the Lower Arctic Atmosphere: Observations and Implications for Climate Simulation**, *University of Utah (Invited)*, 2 December, 2010, Salt Lake City, UT.
- de Boer, G., W.D. Collins, S. Menon, E. Hunke and E.W. Eloranta, **Quantifying Seasonal Influence of Strati-form Mixed-Phase Clouds on Arctic Sea Ice Growth Rates**, *International Glaciological Society Symposium on Sea Ice in the Physical and Biogeochemical System*, 30 May-4 June, 2010, Tromsø, Norway.
- de Boer, G., E.W. Eloranta, I. Razenkov, J.P. Garcia, and J. Hedrick, **Ground-Based Cloud and Precipitation Measurements in the Arctic**, *Lawrence Livermore National Laboratory (Invited)*, 19 January, 2010, Livermore, CA.
- de Boer, G., E.W. Eloranta, M.D. Shupe, T. Uttal, J. Kay, T. Hashino and G.J. Tripoli, **Arctic Mixed-Phase Clouds: Observations and Modeling Challenges**, *CCSM Polar Climate Working Group Meeting*, 19-20 February, 2009, Santa Fe, New Mexico.
- de Boer, G., E.W. Eloranta, G.J. Tripoli, J. Kay and M.D. Shupe, **Ground-Based Observations of Clouds in the Arctic -- Implications for CloudSat-related Studies**, *CloudSat Science Team Meeting*, 19-21 August, 2008, Seattle, Washington.
- de Boer, G., T. Hashino, and G.J. Tripoli, **Effects of Immersion Freezing on Simulations of Mixed-Phase Stratus Clouds (Theory and Results)**, *WMO International Cloud Modeling Workshop*, 13-17 July, 2008, Cozumel, Mexico.
- de Boer, G., T. Hashino, G.J. Tripoli and E.W. Eloranta, **A Possible Role for Immersion Freezing in Mixed-Phase Stratus Clouds**, *4th Pan-GCSS Meeting*, 2-6 June, 2008, Toulouse, France.
- de Boer, G., E.W. Eloranta, and G.J. Tripoli, **A Multi-Platform Study Towards the Understanding of Mixed-Phase Cloud Processes in the Arctic**, *CALIPSO Science Team Meeting*, 11-13 March, 2008, Paris, France.
- de Boer, G., E.W. Eloranta, T. Hashino, and G.J. Tripoli, **A Potential Role for Immersion Freezing in Arctic Mixed-Phase Stratus**, *ARM Science Team Meeting*, 10-14 March, 2008, Norfolk, VA.
- de Boer, G., E.W. Eloranta, I.A. Razenkov, J.P. Hedrick, J.P. Garcia, and M.D. Shupe, **Long-Term Lidar and Radar Observations of Arctic Stratus at Two Locations**. *Annual Meeting of the American Meteorological Society*, 20-24 January, 2008, New Orleans, LA.
- de Boer, G., G.J. Tripoli and E.W. Eloranta. **A Numerical Study of Boundary Layer Roll Structures over Lake Michigan During a Cold Air Outbreak**, *2007 International Association for Great Lakes Research Meeting*, 28-31 May, 2007, State College, PA.
- de Boer, G., **Lidar-Based Microphysical Retrievals During M-PACE**, *Atmospheric Radiation Measurement Program Cloud Modeling Workgroup fall meeting*, 29-31 October, 2006, San Francisco, CA.
- de Boer, G., G.J. Tripoli, E.W. Eloranta, **Small Scale Simulation and Lidar Validation of a Shallow Land Breeze Front**, *16th AMS Symposium on Boundary Layers and Turbulence*, 9-13 August, 2004, Portland, ME.
- de Boer, G., E.W. Eloranta, G.J. Tripoli, **Lidar Observations and Comparisons with Numerical Simulation of a Lake Michigan Land Breeze Front**, *22nd International Laser Radar Conference*, 12-16 July, 2004, Matera, Italy.